

"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4

L 46988-66

ACC NR: AT6024909

liquid state being preferred. Refining of the alloy with gaseous chlorine after the addition of lithium insures the required purity of the ingots. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 001

me  
Card 2/2

APPROVED FOR RELEASE: 06/09/2000

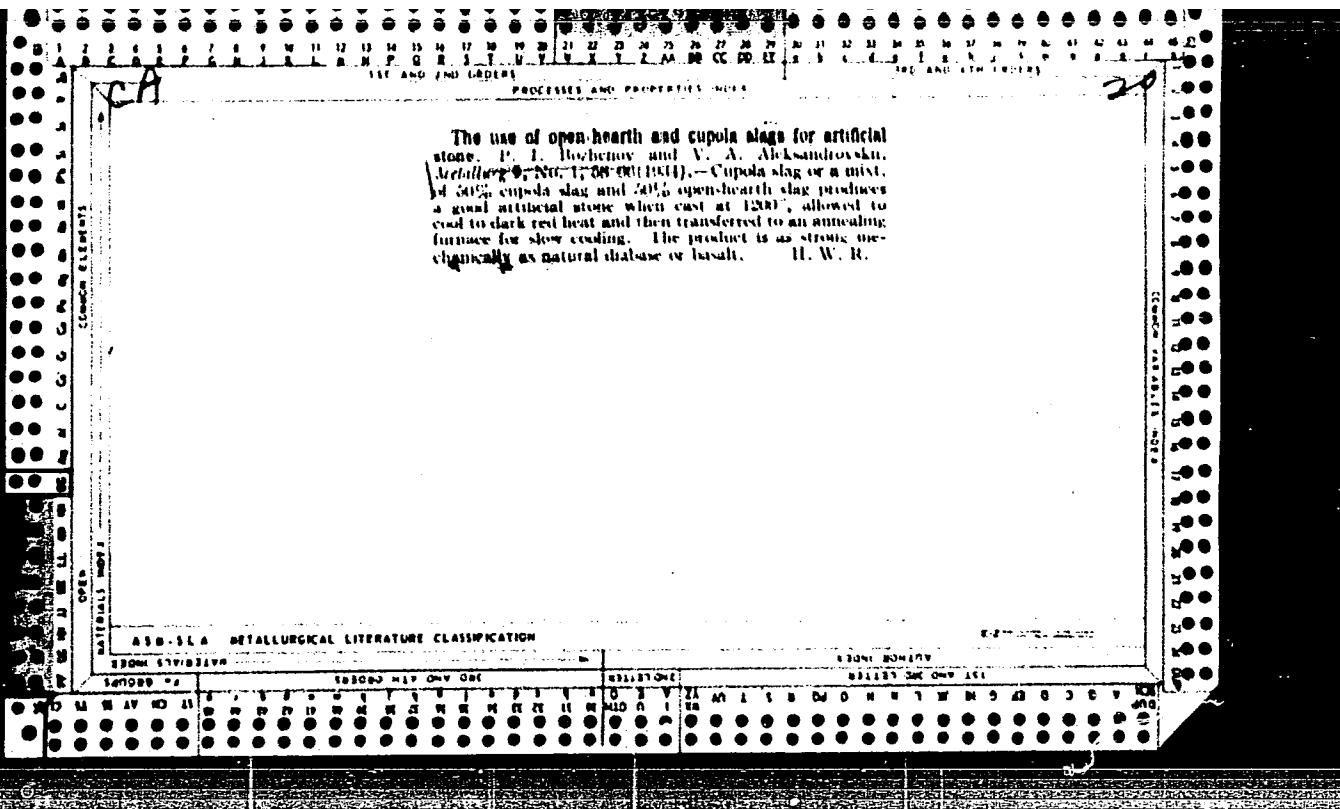
CIA-RDP86-00513R000206710010-4"

BOZHENOK, N.I., kand. sel'skokhoz. nauk

Rye as a prolific crop. Zemledelie 27 no.7:78-80 Jl '65.

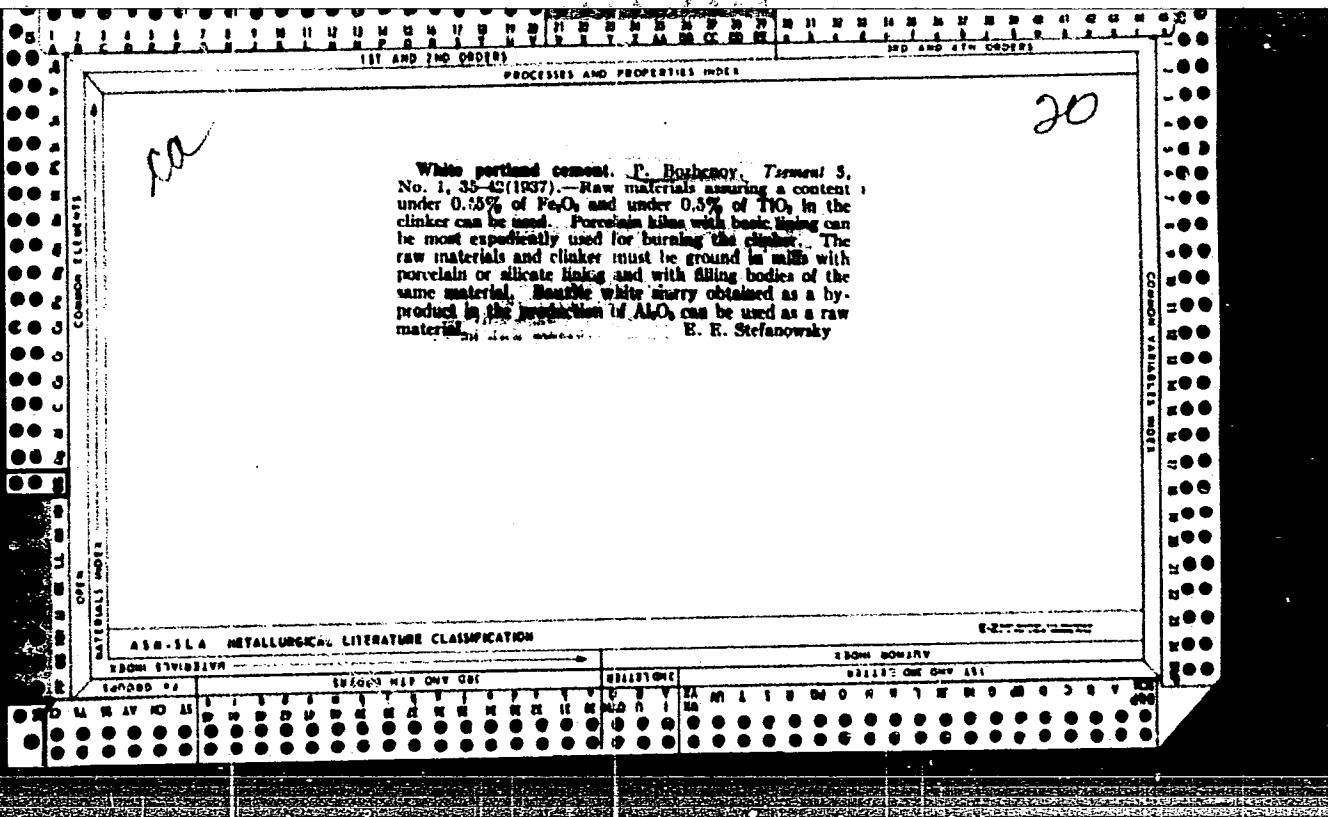
(MIRA 18:7)

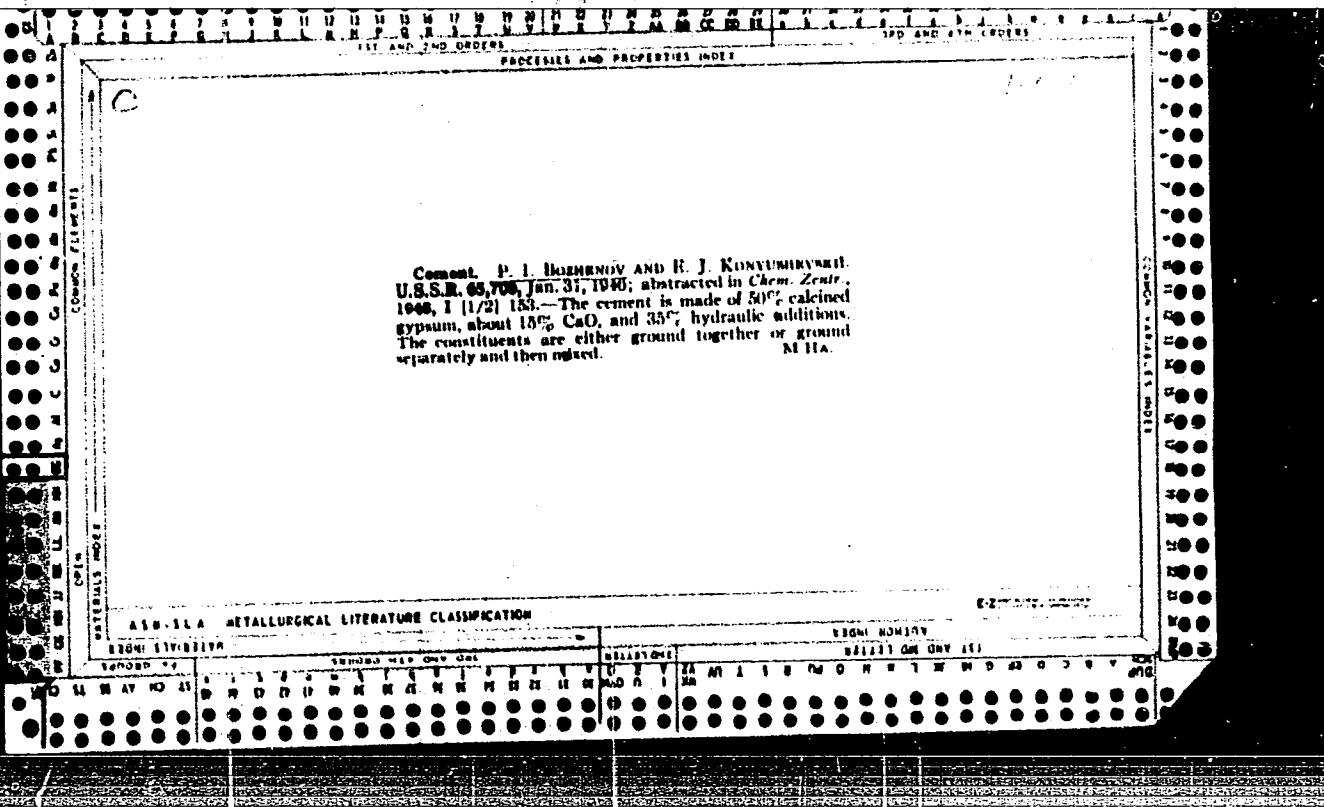
1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.

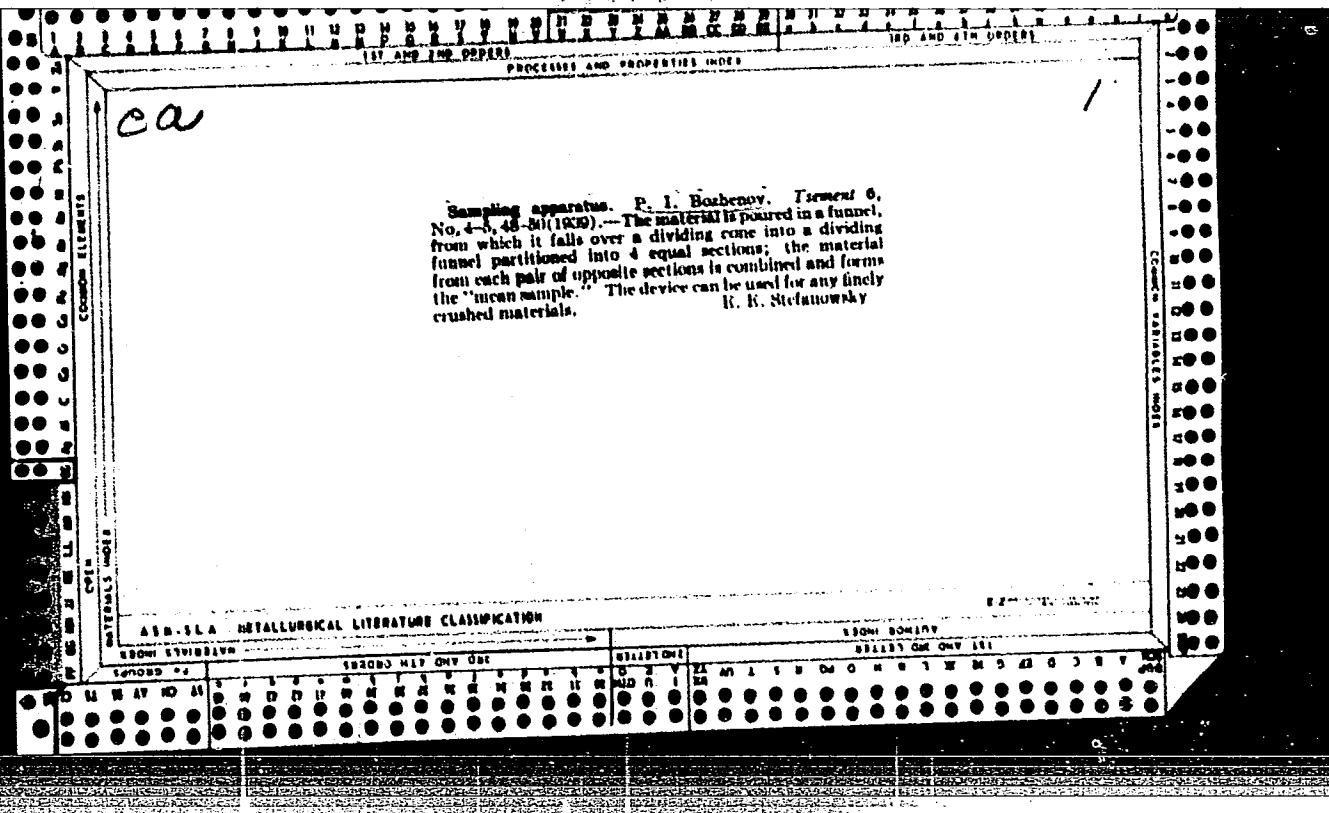


THE USE OF SLAG FROM ELECTRIC FURNACES IN THE CEMENT INDUSTRY. E. Huguenin. *Steel Material*, 1935, No. 1, 43-6. A preliminary investigation demonstrated that white and black slag can be used as an addn. to portland cement, with an admn. of 30% of white slag & cement of

the quality of slag portland cement was obtained. The compn. of white and black slag was, resp.: SiO<sub>2</sub> 20.00, 10.10; Al<sub>2</sub>O<sub>3</sub> 3.92, 2.90; FeO 1.6, 21.67; FeO<sub>2</sub> 0, 7.83; CaO 60.98, 36.6; Mg 11.10, 8.6; MnO 2.00, 0.43; Cr<sub>2</sub>O<sub>3</sub> 1.70%. R. R. Stefanowsky







VERBER, M.A.; SMIRNOV, N.A.; BOZHENOV, P.I., kandidat tehnicheskikh nauk,  
redaktor; ROZOV, I.K., tehnicheskiy redaktor

[Concrete and mortar mixture] Zavody betona i rastvora. Leningrad.  
Gos. izd-vo lit-ry po stroitel'stvi i arkhitektura, 1952, 255 p.  
(Mixing machinery) (Concrete) (MLRA 8:5)

BOZHENOV, P.I.

Possibilities for using gypseous stone in construction. (In: Akademija nauk SSSR, Voprosy petrografii i mineralogii. Moskva, 1953.  
Vol. 2, p.374-380) (MIRA 7:4)  
(Building materials)

DO NOT REMOVE

Cement for the production of concrete and reinforced concrete products. P. I. Lurhenny. Trudy Sovetskogo Tsvetnogo Seleniya (Leningrad) 1953, N<sup>o</sup> 89. Referat Zash. Khim. 1954, No. 11778. Data are quoted on the effect of hydrothermal treatment on the hardening of clinker minerals. This effect was studied on clinkers with a coeff. of sin of 0.40-0.42. In all cases crystalline Ca hydrosilicate formed after prolonged steaming. The production of concrete and reinforced concrete blocks and structural details (components) should be organized by steaming low-CaO cement products contg. less than 50% CaO under pressure. An example of such a cement is nepheline sludge which is an industrial waste and contains an appreciable quantity of dicalcium silicate. For the characterization of slags the index of basicity should be replaced by the coeff. of basicity based on mol. ratios. Data are given on the effect of hardening accelerators and grinding on the properties of slow-hardening cements.

M. Hosch

D02 HENRY P.I.

MTV Hardening processes of cements during treatment with high pressure steam. P. I. Pavlenko and G. F. Sverdlova. Tsvet, 21 [6] 4-8 (1959). At temperatures up to 1000°C. in saturated steam, the hydration products have characteristics different from those of normal hardening. As pressure rises, the ratio of crystalline products to gel-like products increases. Strength tests show that for each cement, depending on its mineral composition, there is an optimum condition of autoclaving within the limits of 16 to 20 atm, which will give the most rational ratio of crystalline and colloidal hydration products.

B.Z. 4.

(1)

6/27/

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5,  
p 123 (USSR) 15-57-5-6563

AUTHORS: Bozhenov, P. I., Sal'nikova, V. S.

TITLE: The Bonding Properties of Some Natural Minerals  
(O vyazhushchikh svoystvakh nekotorykh prirodnykh  
mineralov)

PERIODICAL: Sb. nauch. rabot. po khimii i tekhnol. silikatov.  
Moscow, Promstroyizdat, 1956, pp 112-120.

ABSTRACT: The bonding properties of certain magnesian silicates suggest a possible solution to the problem of practical use for waste products in the asbestos production industry. Asbestos magnesian plates show the greatest mechanical bending strength if steamed four days after their production. The strength in this situation varies with the temperature applied. At temperatures from 800° down to 500°, a decrease in strength is noted, but at 500°, the strength increases from 17 to 48 percent. The density of asbestos magnesian plates is

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15-57-5-6563

The Bonding Properties of Some Natural Minerals (Cont.)

considerably lower than that of asbestos cement plates. It is fully possible that portland cement in asbestos-cement products may be replaced by waste products from the asbestos industry or by rocks which contain a considerable quantity of serpentine and which have been roasted and finely ground. These products will find wide application as structural and insulation material.

Card 2/2

V. P. Ye.

*Bozhenov, P.I.*

USSR /Chemical Technology. Chemical Products  
and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31642

Author : Bozhenov P.I., Suvorova G.F.

Title : Effect of Hydrothermal Treatment on Hardening  
of Cements of Different Mineralogical Composition.

Orig Pub: Tr. Soveshchaniya po khimii tsementa. M., Prom-  
stroyizdat, 1956, 341-350

Abstract: Investigation of the effect on strength of cements  
of different steam pressure, during hydrothermal  
treatment, within the range from 8 to 200 atmos-  
pheres gauge pressure. Maximum strength is at-  
tained, in the case of 1:3 mortar, at a pressure

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USSR /Chemical Technology. Chemical Products  
and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31642

of 15-25 atmospheres, and in the case of a cement paste at 8-15 atmospheres, depending on the mineralogical composition of the cement. Strength of mortars, at all conditions of the hydrothermal treatment, exceeds considerably that of 28-day specimens of normal hardening. On prolonged storage in water strength of steam-treated specimens increases, less however than that of specimens not treated with steam. Greatest strength after steam treatment is exhibited by cement specimens of bellite cement; of lesser strength are found to be cements with a high content of C<sub>3</sub>A and C<sub>3</sub>S. For cements with

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USSR /Chemical Technology. Chemical Products  
and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31642

an increased content of  $C_2S$  and  $C_4AF$  the optimum range of pressure is not 8-15 but 15-25 atmospheres gauge pressure. Strength of mortars made with alite cements increases at 25 atmospheres by 5-6 times, in comparison with the 28-day specimens; in the case of bellite cements the respective increase is of 6-9 and 2 times. At a higher pressure more extensive hydration of the cement takes place, with formation of a larger amount of hardening products, and a more intensive consolidation of gel-like hydrosilicates and calcium hydroferrites. It is pointed out that higher strength values of

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USSR /Chemical Technology. Chemical Products  
and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31642

concrete and mortar specimens are obtained  
with a higher content of calcium silicates in  
the cement.

Card 4/4

BOZHENOV, P. I.

Thermographic analysis of solid products of cement processed with high-pressure steam. P. I. Bozhenov and G. P. Suvorova. Tsement 23, No. 1, 8-12 (1959).  
The basic endothermic effects observed during heating of samples are at 120-135, 290-295, 420-440, 550-570°.  
With increasing steam pressure from 10 to 15 atm., the intensity of the 120-135° decreases and the intensity of the 290-295° increases. At 15 atm. the decomposition of cement begins more rapidly than at 10 atm. The maximum of the 420-440° effect is reached at 15 atm. In the 550-570° range no effect is observed.  
Endothermic effects start to appear in the samples obtained with 10 atm. steam at 730, 820-840, and 890-910°. An optimum in the rate of decomposition of cement is observed in samples obtained with 15-25 atm. steam at 730-750°. At 25 atm. steam there is a deeper penetration of hydration of cement particles due to the max. density of gel-like products of hydration.

BOZHENOV, P. I. and V. S. SAL'NIKOVA

"Utilization of Certain Natural Minerals in the Building Materials Industry" p. 314

"Synthesis and Structure of Compounds containing Simple and Complex Heavy Metal Cations." p. 31

Transactions of the Fifth Conference on Experimental and Applied Mineralogy and Petrography, Trudy ... Moscow, Izd-vo AN SSSR, 1956, 316pp.

reprints of reports presented at conf. held in Leningrad, 26-31 Mar 1956. The purpose of the conf. was to exchange information and coordinate the activities in the fields of experimental and applied mineralogy and petrography, and to stress the increasing complexity of practical problems

15-57-10-14333

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10,  
p 159 (USSR)

AUTHORS: Bozhenov, P. I., Satin, M. S.

TITLE: The Properties and Technique of Preparing Aerocrete  
From Nepheline Cement (Svoystva i tekhnologiya izgotov-  
leniya penobetona na nefelinovom tsemente)

PERIODICAL: V sb: 15-ya nauchn. konferentsiya Leningr. inzh.-  
stroit. in-ta, Leningrad, 1957, pp 407-409

ABSTRACT: Autoclave-treated aerocrete made of nepheline cement  
compares favorably in quality with aerocrete from port-  
land cement, which fast demonstrates the advisability  
of using aerocrete from belite type cement for technical  
purposes. Because of the high viscosity of the nephe-  
line cement mix it is fully possible to use it with  
natural unground sand having grain diameters up to 1 mm.  
The aerocrete thus obtained will yield nonshrinkage  
articles up to 40 cm or 60 cm in height even with the  
use of unground sand.

V. P. Yeremeyev

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BOZHENOV, P. I.

KREML'EV, V. P., Inzhener i KHRUSTALEV, S. S., Kand. Tekhn. nauk St. Nauchno. Sotr. i BOZHENOV, P. I., Kand. Tekhn. Nauk i VASIL'KOVSKIY, S. V., Laureat Stalinskoy Premii Prof. Leningradskiy filial Akademii arkitektury SSSR.

PREDLOZHENIYA PO ISPOL'ZOVANIYU ESTESTVENNOGO GIPSOVOGO KAMIYA DLYA NARY-ZHNYKH OBLITSOVOK.

page 94

SO: Collection of Annotations of Scientific Research Work on Construction, completed in 1950. Moscow, 1951

AUTHORS: Bozhenov, P.I. and Kavalerova, V.I. 101-58-3-4/12

TITLE: On a Few Properties of Aluminum Production Waste - Nepheline Slurry (O nekotorykh svoystvakh otkhoda alyuminiyevogo proizvodstva - nephelinovogo shlama)

PERIODICAL: Tsement, 1958, Nr 3, pp 12-18 (USSR)

ABSTRACT: The Chair of Construction Materials of the Leningrad Institute of Construction Engineering has studied the characteristic properties of nepheline-syenite cement slurry, a waste product of aluminum oxide. It is obtained in large quantities at the Achinsk Aluminum Plant now under construction. The plant will utilize only 1/3 of the nepheline slurry in the production of portland cement, the rest will be used for producing nepheline cement. Chemical, petrographic and X-ray analyses show that the mass of nepheline slurry consists of 75-80 %  $2\text{CaO} \cdot \text{SiO}_2$  in the shape of small grains and particles. To obtain cement, the slurry has to be dried and ground (composition: 85 % nepheline slurry, lime and gypsum). Nepheline cements can be used without hydrothermal treatment as a slow hardening binding material, e.g. for hydrotechnical constructions, where the required strength is needed within 3-6 months. They are especially useful as binding

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101-58-3-4/12

On a Few Properties of Aluminum Production Waste - Nepheline Slurry

materials for making objects by hydrothermal processing methods, which are highly frost resistant, and they surpass even the properties of portland cement brand "300" when submitted to autoclave processing. Nepheline cements are very resistant to the influence of corroding waters. There are 9 tables.

ASSOCIATION: Leningradskiy inzhenerno-stroiteľ'skiy institut. Kafedra stroitel'skikh materialov (Leningrad Institute of Construction Engineering. Chair of Construction Materials)

1. Aluminum oxide waste--Study and teaching    2. Nepheline syenite--Characteristics

Card 2/2

BOZHENOV, P.I., prof., doktor tekhn.nauk, otv.red.; KAMUSHER, Ye.D.,  
red.; SMIRNOV, A.N., tekhn.red.

[Reports of the Conference of Institutions of Higher Learning on  
Studying Autoclave-hardened Materials and their Use in Construc-  
tion] Doklady Mezhvuzovskoi konferentsii po izucheniu avto-  
klavnykh materialov i ikh primeneniiu v stroitel'stve. Leningrad,  
Leningr.inzhenerno-stroit.in-t, 1959. 301 p. (MIRA 13:1)

1. Mezhvuzovskaya konferentsiya po izucheniyu avtoklavnykh mate-  
rialov i ikh primeneniyu v stroitel'stve. 2. Deystvitel'nyy  
chlen Akademii stroitel'stva i arkhitektury SSSR; Leningradskiy  
inzhenerno-stroitel'nyy institut (for Bozhenov).  
(Building materials) (Autoclaves)

BOZHENOV, P.I.; KAVALEROVA, V.I.

Effect of the nature of aggregates on the strength of mortars.  
Nauch.dokl.vys.shkoly; stroi. no.2:183-186 '59.  
(MIRA 13:4)

1. Rekomendovana kafedroy stroitel'nykh materialov Leningrad-  
skogo inzhenerno-stroitel'nogo instituta.  
(Aggregates (Building materials))  
(Mortar)

153000

29434  
S/081/61/000/017/095/166  
B101/B102

AUTHORS: Bozhenov, P. I., Suvorova, G. F.

TITLE: Autoclave processing of concretes at high vapor pressures

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1961, 354, abstract  
17K366 (Dokl. Mezhvuz. konferentsii po izuch. avtoklavn.  
materialov i ikh primeneniyu v str-ve. L., 1959, 86-91)

TEXT: The authors studied the autoclave processing (AP) of cements of different mineralogical compositions at 8-200 atm. They found that AP should be performed with alite cements at 16 atm, with belite binders at 16-25 atm for AP time shortened to 1/2-1/3. Strengths exceeding  $R_{28}$  may be attained. At elevated pressure, a considerable amount of crystalline substances is formed, which reduces the strength of products. An addition of ground sand is convenient, irrespective of the type of cement.  
[Abstracter's note: Complete translation.]

X

Card 1/1

BOZHENOV, P. I.; KHOLOPOVA, L. I.

New method for making colored cements. TSement 26 no. 4:15-20 Jl-Ag  
'60. (MIRA 13:11)  
(Cement)

BOZHENOV, P.I.; SATIN, M.S.; ROTENBERG, A.S., red.; VOLCHEK, K.M.,  
tekhn.red.

[Autoclave-hardened foamed concrete made with industrial  
wastes] Avtoklavnyi penobeton na osnove otkhodov promyshlen-  
nosti. Leningrad, Gos.ind-vo lit-ry po stroit., arkhit. i  
stroit.materialam, 1960. 102 p. (MIKE 13:5)  
(Lightweight concrete) (Industrial wastes)

BOZHENOV, P.I., doktor tekhn.nauk; SUVOROVA, G.P.; ZHURAVSKIY, N.A.,  
red.izd-va; PUL'KINA, Ye.A., tekhn.red.

[High-pressure steam treatment of construction materials]  
Obrabotka stroitel'nykh materialov parom vysokogo davleniya.  
Leningrad, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.  
materialam, 1961. 79 p. (MIRA 14:12)

1. Deyativitel'nyy chlen Akademii stroitel'stva i arkhitektury  
SSSR (for Bozhenov).  
(autoclaves) (Building materials)

BOZHENOV, P.I., doktor tekhn. nauk, red.; SATIN, M.S., kand. tekhn. nauk, red.; NEYZ, M.B., red. izd-va; ROZOV, L.K., tekhn. red.

[Building materials] Stroitel'nye materialy; stornik nauchnykh soobshchenii. Leningrad, Gos.izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 100 p. (MIRA 14:11)

1. Akademiya stroitel'stva i arkhitektury SSSR. Leningradskiy filial.
2. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR  
(for Bozhenov).

(Concrete)

21-5250  
15.3200

31564  
S/081/61/000/022/046/076  
B101/B147

AUTHORS: Bozhenov, P. I., Kamusher, Ye. D., Glibina, J. V.

TITLE: Selection of concrete mixtures with given boron content

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 311, abstract  
22K313 (Sb. "Stroit. materialy". L., 1961, 29 - 30)

TEXT: Concrete mixtures were developed on the basis of Portland cement 400, quartz sand and crushed granite, grain size 20mm. The boron-containing materials used were boron-containing glass of the "Lenzos" plant with 7% B and borate ore of the Indera deposit with 10% B. These boron materials were added to the binder and to the coarse and the fine aggregates. When used as aggregate the borate ore was molten. The melt was either cooled in water with formation of slag sand as fine aggregate or used in the form of glass pieces which served as crushed material. Concrete mixtures with 0.3 - 2.85% B and a strength of 100 - 300 kg/cm<sup>2</sup> after 28 days were obtained. The weight by volume of the concretes was 2.3 - 2.5 kg/liter. Autoclave treatment of mortars and concretes considerably increased the strength in the first solidification period. After 4 to 7 days, the strength of con-

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Selection of concrete mixtures...

cretes with boron-containing glass is  $220 - 260 \text{ kg/cm}^2$ . [Abstracter's note:  
Complete translation.] X

31564  
S/081/61/000/022/046/076  
B101/B147

Card 2/2

BOZHENOV, P.I.

Effect of high-pressure steam on the setting of various cements.  
Izv. ASIA no.1:56-68 '61. (MIRA 14:7)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury  
SSSR.  
(Steam, High-pressure)  
(Cement—Testing)

BOZHENOV, P.I., doktor tekhn.nauk, prof.; KAVALEROVA, V.I., kand.tekhn.nauk

Effect of the nature of aggregates on concrete and mortar strength.  
Bet. i zhel.-bet. no 3:120-122 Mr '61. (MIRA 14:5)

1. Deystvitel'nyy chlan Akademii stroitel'stva i arkhitektury SSSR  
(for Bozhenov).  
(Aggregates (Building materials))

BOZHENOV, P.I., laureat Leninskoy premii, doktor tekhn.nauk;  
RAKHTSKAYA, Z.N., inzh.

Obtaining slate-type laminated materials based on the by-products  
of asbestos concentration plants. Stroi. mat. 8 no.5:12-15  
My '62.  
(Magnesium silicates) (MIRA 15:7)  
(Building materials)

BOZHENOV, P.I.; RODIONOVA, V.V.

The binding properties of  $2\text{CaO}\cdot\text{SiO}_2$ . TSement 28 no.3:10-12  
(MIRA 15:7)  
My-Je '62.

1. Leningradskiy inzhenerno-stroitel'nyy institut.  
(Binding materials)

BOZHENOV, P.I., doktor tekhn. nauk, prof.; KAVALEROVA, V.I.;  
SAL'NIKOVA, V.S.; SUVOROVA, G.F.; KHOLOPOVA, L.I.;  
ROTENBERG, A.S., red.izd.-va; KISELEV, M.V., inzh., nauchn.  
red.; PUL'KINA, Ye.A., tekhn. red.

[Autoclave-hardened cements and products made from them]  
TSementy avtoklavnogo tverdeniya i izdeliia na ikh osnove.  
Leningrad, Gosstroizdat, 1963. 200 p. (MIRA 17:1)

BOZHENOV, Petr Ivanovich, doktor tekhn. nauk, prof.; SYCHEV, M.M.,  
kand. tekhn. nauk, nauchn. red.; ROTENBERG, A.S., red.  
izd-va; CHERKASSKAYA, F.T., tekhn. red.

[Comprehensive utilization of mineral raw materials in the  
manufacture of building materials] Kompleksnoe ispol'zovanie  
mineral'nogo syr'ia dlja prcizvodstva stroitel'nykh mate-  
rialov. Leningrad, Gosstrooiizdat, 1963. 160 p.  
(MIRA 17:2)

KHOLOPOVA, Lyudmila Irodionovna; BOZHENOV, P.I., doktor tekhn.  
nauk, prof., nauchny. red.

[Corrosion of reinforcement in autoclaved cellular concrete  
and methods of preventing it] Korroziia armatury v avto-  
klavnykh iacheistykh betonakh i sposoby ee preduprezhdeniya.  
Leningrad, Stroizdat, 1965. 80 p. (MIRA 18:6)

BEZHENOV, P.I., doktor tekhn. nauk; KHOLOPOVA, L.I., kand. tekhn. nauk

Colored clinker portland cement. TSement 31 no. 6:9-10  
N-D '65. (MIRA 18:12)

1. Leningradskiy inzhenerno-stroitel'nyy institut i Leningradskiy  
zonal'nyy nauchno-issledovatel'skiy institut eksperimental'nogo  
projektirovaniya.

BOZHENOV, V., inzh.

A simple method for obtaining mounting plates. Radio no.4:53  
Ap '62. (MIRA 15:4)  
(Printed circuits) (Radio--Equipment and supplies)

BOZHENOV, Vladimir Fedorovich; TARASOV, F.I., red.

[System for assembling transistor radios] Ustroistvo  
dlia sborki tranzistornykh priemnikov. Moskva, Energiia,  
1964. 15 p. (Massovaya radiobiblioteka, no.498)  
(MIRA 18:2)

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CIA-RDP86-00513R000206710010-4

BOZHENOV A. P.

Effect of heat insulation on the process of water migration in  
freezing ground. Mat.po lab.issl.merzl.grunt.l:52-64 '53.

(MLRA 7:2)  
(Frozen ground)

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CIA-RDP86-00513R000206710010-4"

BOZHENOVA, A.P.

~~Supercooling of water in soil and ground freezing. Mat.po  
lab.issl.merzl.grunt.l:144-156 '53.~~ (MLRA 7:2)  
~~(Frozen ground) (Supercooling)~~

BOZHENOVА, A.P., starshiy nauchnyy sotrudnik

Instructions in laboratory methods for determining supercooling temperatures and the beginning of ground freezing. Mat.po lab. issl.merzl.grunt. no.2:16-31 '54. (MIRA 8:8)

1. Tsentral'naya laboratoriya Instituta merzlotovedeniya Akademii nauk SSSR. (Soil freezing) Inst. frost study

BOZHENOVA,A.P., starshiy nauchnyy sotrudnik; SHIMANOWSKIY,S.V.,  
nauchnyy sotrudnik

Directions for studying the freezing process of soils and ground.  
Mat.po lab.issl.merzl.grunt. no.2:125-137 '54. (MLRA 8:8)

1. TSentral'naya laboratoriya Instituta merzlotovedeniya Akademii  
nauk SSSR.  
(Soil freezing) (Frozen ground)

BOZHENDUA, A. P.

TSYTOVICH, N.A.; NERSESOVA, Z.A.; BOZHENDUA, A.P.; TATYUNOV, I.A.; DOSTOVALOV, B.N.; SHUMSKIY, P.A.; BAKULIN, F.G.; SAVEL'YEV, B.A.; ZHUKOV, V.F.; MARTYNOV, G.A.; VYALOV, S.A.; SHUSHERINA, Ye.P.

Physical phenomena and processes in freezing, frozen, and thawing soils; general comments. Mat. po lab. issl. merzl. grunt. no.3:7-114 '57. (MIRA 10:11)

(Frozen ground)

BOZHENOVA, A.P.

BOZHENOVA, A.P.; BAKULIN, F.G.

Experimental study of mechanisms of moisture movements in freezing  
ground. Mat. po lab. issl. merzl. grunt. no.3:117-128 '57.  
(Soil moisture) (Frozen ground) (MIRA 10:11)

*BOZHENOVA A.P.*

~~BOZHENOVA, A.P.~~

Effect of osmotic forces on moisture movements in soils. Mat. po lab.  
issl. merzl. grunt. no.3:129-141 '57. (MIRA 10:11)  
(Soil moisture) (Osmosis)

BOZHENKOVA, N.; STREPETOVA, L.

Care for the health of women workers. Okhr. truda i sots. strakh. 4  
no.1:18-19 Ja '61. (MIRA 14:3)

1. Predsedatel' komissii sotsial'nogo strakhovaniya Yartsevskogo  
khlopchatobumazhnogo kombinata (for Bozhenkova). 2. Strakhovoy delegat  
pryadil'noy fabriki No. 1 Yartsevskogo khlopchatobumazhnogo kombinata  
(for Strepetova).

(Yartsevo—Textile industry—Hygienic aspects)  
(Women—Health and hygiene)

KOTEL'NIKOV, B.P., inzh.; BOZHENOVA, N.I., inzh; PEREL', Z.P., inzh.;  
ZAVISTOVSKAYA, M.D., inzh.

Rapid method for determining the content of sodium sulfate in  
washing pastes and in the "Novost'" powder. Masl.-zhir. prom. 25  
no.7:42-43 '59. (MIRA 12:12)

1. Shebekinskiy kombinat sinteticheskikh zhirnykh kislot i zhirnykh  
spirtov.  
(Washing powders--Analysis) (Sodium sulfates)

*Bozheryanov, Yu.*  
BULGARIA/Chemical Technology - Chemical Products and Their  
Application. Dyes and Chemical Treatment of  
Textile Materials.

H-34

Abs Jour : Ref Zhur - Khimiya, No 17, 1958, 59651  
Author : Dimov, K., Lukanov, T., Bozheryanov, Yu.  
Inst : -  
Title : The Use of Carbamide- and Carbamidemelaminoformaldehyde  
Resins for Decreasing the Crumpling of Viscose Staple  
Fiber (Wool Type) Fabrics.  
Orig Pub : Lekha promishlenost, 1957, 6, No 9, 13-17.  
Abstract : The conditions were established for the extraction of  
stable urea-formaldehyde precondensates, which do not  
change their properties during a one-month storage pe-  
riod. This allows accomplishing centralized product  
preparation in one chemical enterprises for satisfying  
the needs of the entire textile industry of the country.  
The introduction of 20-30% melamine into the composition

Card 1/2

- 108 -

BULGARIA/Chemical Technology - Chemical Products and Their  
Application. Dyes and Chemical Treatment of  
Textile Materials.

H-3<sup>4</sup>

Abs Jour : Ref Zhur - Khimiya, No 17, 1958, 59651

of the precondensate strongly furthers the fixation of the resin and the increase of the resistance of the finishing to crumpling and washing. The introduction of non-crumpling finishing into the industry is being delayed by the lack of closed drying-stretching frames and chambers for carrying out the process of condensation.

Card 2/2

NAKOV, L., khim., nauchen sutrudnik; BOZHERIANOV, Iu., inzh., nauchen  
sutrudnik

Sizing of worsted warp with synthetic products. Trud Inst tekstil  
prom 4:39-47 '63.

"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4

BOZHERIANOV, IU., inzh., nauchen sutrudnik; MINCHEV, V., inzh. nauchen  
sutrudnik; SHKODREV, V., st. tekhnik

Cloth for fur articles knitted on circular multisystem knitting  
machine, model TOP. Trud Inst tekstil prom 4:117-129 '63.

APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4"

BOZHEVICH, L.I., red.; BLAGONADEZHINA, L.V., red.; GOVORKOVA, A.F.,  
red.; TARASOVA, V.V., tekhn. red.

[Psychology of student personality] Voprosy psichologii  
lichnosti shkol'nika. Pod red. L.I.Bozhovich i L.V.Blagonade-  
zhinoi. Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1961. 405 p.  
(MIRA 15:4)

1. Akademiya pedagogicheskikh nauk RSFSR, Moscow. Institut psi-  
khologii.

(Child study)

BOZHEVIKOV, N.A.; SHESTOPALOV, L.A.

Basic characteristics and tendencies in the development of  
modern instruments for measuring the height of the bases of  
clouds. Meteor. i gidrol. no.5:45-50 My '63. (MIRA 16:5)

1. Nauchno-issledovatel'skiy institut gidrometeorologicheskogo  
priborostroyeniya.  
(Clouds) (Meteorological instruments)

"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4

BOZHEVIKOV, N.S.

Instrumental measurements of the ceiling height. Trudy NIIGMP  
no.7:63-72 '59. (MIRA 13:5)  
(Clouds) (Meteorological instruments)

APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4"

S/050/60/000/05/18/020  
B007/B014

AUTHOR: Bozhevikov, N. S.

TITLE: ✓ Interdepartmental Conference on Problems of Atmospheric Transparency and Visibility

PERIODICAL: Meteorologiya i hidrologiya, 1960, No. 5, pp. 62-63

TEXT: An Interdepartmental Conference on problems of atmospheric transparency and visibility was held in Leningrad in January, 1960. The Conference had been convened following a recommendation by the Glavnaya geofizicheskaya observatoriya (Main Geophysical Observatory), and was attended by delegates of 42 organizations and scientific research institutes (GUGMS (Main Administration of the Hydrometeorological Service), TsIP (Central Institute of Forecasts), NII GMP (Scientific Research Institute of Hydrometeorological Instruments), TsAO (Central Observatory of Aerology), NII GVF (Scientific Research Institute of the Civil Air Fleet), GOIN (State Oceanographic Institute), and others). 20 lectures were delivered in four days. N. V. Petrenko (TsIP) dealt with demands made by aviation meteorologists concerning the determination of visibility.

Card 1/3

✓

Interdepartmental Conference on Problems of  
Atmospheric Transparency and Visibility

8/050/60/000/05/18/020  
B007/B014

V. A. Gavrilov (GGO (Main Geophysical Observatory)) raised the problem of visibility determination in the landing of airplanes. V. I. Goryshin (GGO) reported on the construction of a novel recording photometer for the measurement of atmospheric transparency. N. S. Bozhevikov supplied data concerning a novel instrument serving for the measurement and recording of the altitude of clouds and the pulsation of the lower boundary of clouds every 30 seconds during day and night. I. N. Nechayev (GGO) analyzed the method of evaluating visibility by the eye. V. A. Gavrilov (GGO) reported on a new principle for the determination of air transparency. L. L. Dashkevich (NII GMP) explained the design and the theory underlying the polarimeter of visibility M-53. G. Ya. Bashilov reported on the nephelometric method of measuring the meteorological range of visibility. I. A. Savikovskiy (Minskaya observatoriya (Minsk Observatory)) dealt with the degree of accuracy of various methods of measuring the meteorological range of visibility. Ye. I. Gogoleva (TsIP) reported on synoptic processes which, in conjunction with the formation of a low ceiling impair the visibility. Ye. A. Polyakova (GGO) spoke on atmospheric transparency during precipitations. L. G. Makhotkin (GGO) expressed his belief that present ideas concerning the relationship ✓

Card 2/3

Interdepartmental Conference on Problems of  
Atmospheric Transparency and Visibility

S/050/60/000/05/18/020  
B007/B014

between the water amount in a turbid medium and transparency thereof are basically correct, and that the said relationship is sufficiently confirmed by Trabert's formula. V. F. Belov (TsAO) reported on an optical method of determining the snow masses drifted by the wind in the South Pole regions. Yu. V. Frid (NII GVF) supplied new data on modern phototechnical means of equipping landing strips. K. S. Shifrin (GGO) offered calculations and tables on ranges of visibility. G. V. Rozenberg and Ye. M. Feygel'son dealt with problems of the visibility of objects illuminated by searchlights and offered a method of calculating the brightness of the diffuse light of searchlights. V. V. Baranovskiy and L. N. Meyvar dealt with some problems from physiological optics and with investigations on optical functions. The Conference requested the GUGMS to set up a permanent commission to coordinate the problems relating to visibility.

Card 3/3

6,4780  
6,1130  
3,5000

85617

S/050/60/000/011/005/005  
B012/B063

AUTHOR: Bozhevikov, N. S.

TITLE: Instrument for Recording the Height of the Lower Boundary of Clouds

PERIODICAL: Meteorologiya i gidrologiya, 1960, No. 11, pp. 42-45

TEXT: In his study of the lower boundary of clouds made at the Bykovo airfield the author established that in frontal clouds the deviations of the individual readings taken at intervals of some minutes amounted to 100-200 m, and, in some cases, even to 300-500 m. Since the measurements conducted at the stations of the Gidrometeosluzhba with the aid of pilot balloons and ceiling projectors are inaccurate, a new instrument has been developed and tested at the Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya (Scientific Research Institute of Hydrometeorological Instrument Construction). This instrument, which is described here (Ref. 1), allows the measurement and recording of the lower boundary of clouds at day- and nighttime. It consists of a

X

Card 1/5

85617

Instrument for Recording the Height of the  
Lower Boundary of Clouds

S/050/60/000/011/005/005  
B012/B063

projector with a pendulating beam, a receiver, a self-recorder, and the connection cables. The projector(Fig. 1) supplies a pulsating (modulated) light flux of 100 cps. The pulsation of the projector beam comes from the gas discharge mercury vapor tube of the ДРШ-1000 (DRSh-1000) type, which is used as the source of light. This tube has no inert luminous body and, for this reason, emits a light flux changing at a frequency which is twice that of the power network. A frequency contrast between the background of diffuse daylight and the projector beam is brought about with modulated light. This offers the possibility of measuring and recording the lower boundary of clouds not only by night but also at daytime. The receiver (Fig. 2) serves for switching on the recording system when the light signal comes back from the cloud. An antimony-cesium vacuum photocell is mounted in the focal plane of the reflector of the receiver. The graduation of the self-recorder scale is not uniform (from 50 to 100 m every 10 m, and from 100 to 200 m every 20 m, etc.). The distance between the self-recorder and the projector or receiver may amount to 3-5 km. The instrument is switched on and off by remote control with the aid of a tumbler switch. The instrument permits

Card 2/5

85617

Instrument for Recording the Height of the  
Lower Boundary of Clouds

S/050/60/000/011/005/005  
B012/B063

the measurement and recording of the lower boundary of clouds at day- and nighttime within 50 - 1000 m at a visibility of at least 1.5 - 2 km. It also works on rainy days for 3-4 days without interruption. The maximum error in altitude measurement is  $\pm 10\%$  of the measured value. The instrument is designed for temperatures of +30 to -30°C at a relative humidity of up to 98%. In designing and testing the instrument the author was assisted by A. P. V'yunnik, V. A. Yurchuk, L. A. Shestopalov, V. G. Mozglyakov, A. P. Dudina, the collective of the aviameteostantsiya Bykovo (Aviation Meteorological Station of Bykovo), and others. There are 3 figures and 1 Soviet reference.

Text to Fig. 1: projector

1 - reflector; 2 - reflector frame; 3 - DRSh-1000 tube; 4 - current feed; ✓  
5 - support frame for the DRSh-1000 tube; 6 - bracket; 7 - motor;  
8 - gears; 9 - base plate; 10 - housing.

Text to Fig. 2: receiver

1 - housing; 2 - cable; 3 - amplifier; 4 - relay; 5 - tube; 6 - transformer;  
7 - rectifier tube; 8 - choke; 9 - fuses; 10 - cover with protective  
glass; 11 - adjusting screws.

Card 3/5

85617

S/050/60/000/011/005/005  
B012/B063

Card 4/5

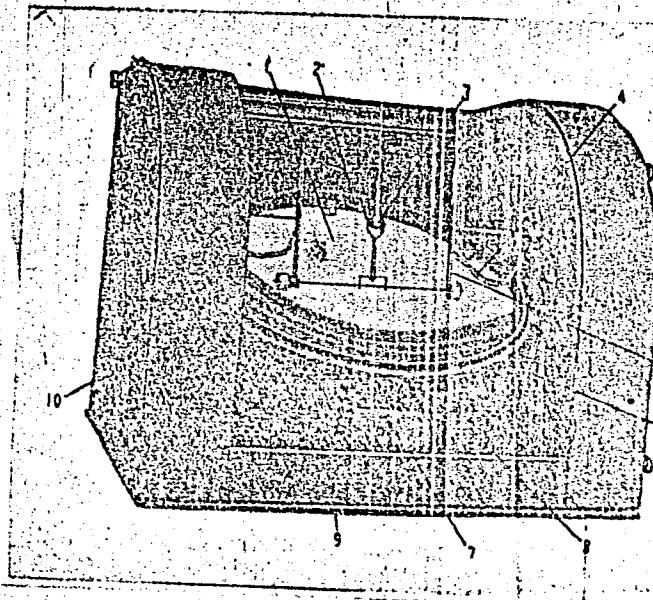


Рис. 1. Прожектор  
1 — отражатель,  
2 — рама отражателя,  
3 — лампа ДРШ-1000,  
4 — токоввод,  
5 — рамка крепления  
лампы ДРШ-1000,  
6 — опорный крон-  
штейн, 7 — мотор,  
8 — редуктор,  
9 — опорная плита,  
10 — кожух.

S/050/60/000/011/005/005  
B012/B063

Card 5/5

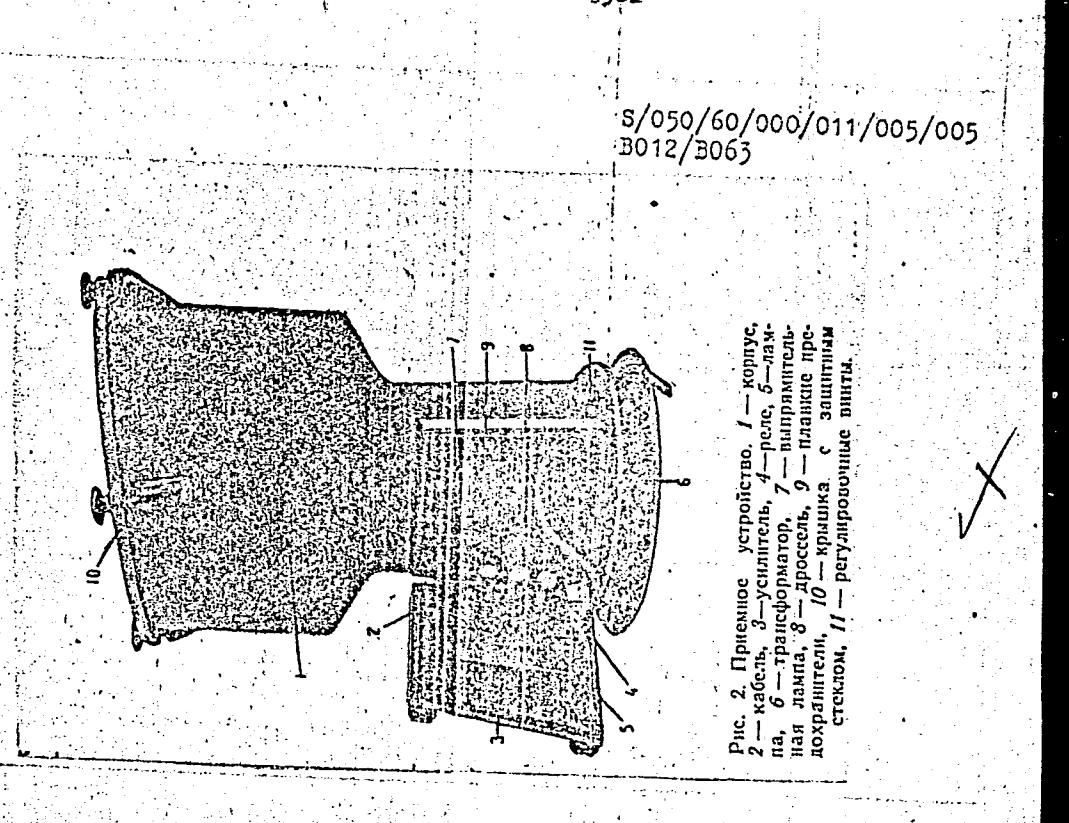


Рис. 2. Приемное устройство. 1 — корпус, 2 — хабель, 3 — реле, 4 — усилитель, 5 — лампа, 6 — трансформатор, 7 — выравнивательная лампа, 8 — дроссель, 9 — планка поддержки, 10 — крышка с защитным стеклом, II — регулировочные винты.

BOZHEVIKOV, N.S.

Altitude recorder of the lower boundary of clouds. Trudy NIIGMP  
no.10:61-81 '61. (MIRA 15:5)  
(Ceilometer)

BOZHEVIKOV, N.S.

Some test results of the altitude recorder of the lower boundary  
of clouds. Trudy NIIGMP no.10:82-88 '61. (MIRA 15:5)  
(Ceilometer)

L 10803-63 ENT(1)/BDS--AFFTC/ASD/ESD-3--RB  
ACCESSION NR: AP3000215

S/0050/63/000/005/0045/0050

59  
58

AUTHOR: Bozhevikov, N. S.; Shestopalov, L. A.

TITLE: Basic characteristics and trends in the development of modern instruments  
for measuring the height of the lower limits of clouds

SOURCE: Meteorologiya i hidrologiya, no. 5, 1963, 45-50

TOPIC TAGS: cloud-height indicator

ABSTRACT: Technical specifications of Soviet A-26 and "Oblako" cloud-height indicators are compared with similar Western equipment on the basis of trigonometric and pulse techniques. Table 1 of the Enclosure gives specifications for the Soviet instruments. Orig. art. has: 2 figures, 2 formulas and 2 tables.

Association: Scientific Research Inst. of Hydrometeorological Instruments.

Card 1/3,

BOZHEVIKOV, N.S.

Relation of the height of the lower boundary of clouds to the  
horizontal meteorological range of visibility on the ground.  
Trudy NIIGMP no.12:78-83 '64. (MIRA 18:4)

L 19574-63 EWT(1)/BDS AFFTC/ASD/ESD-3/AFWL RB/MLK(a)  
ACCESSION NR: AP3008206 S/0286/63/000/013/0052/0052 *XG B*

AUTHOR: Bozhevikov, N. S.; Shestopalov, L. A.; Tupitsyn, O. V.

TITLE: Device for measuring the height of cloud cover. Class 42,  
No. 155639 *VZ*

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1963,  
S2

TOPIC TAGS: cloud height measuring device, cloud cover height,  
quantum mechanical generator, generator, triangulated cloud cover  
height, meteorological instrument.

ABSTRACT: The patent introduces a device for measuring cloud-  
cover height by the triangulation method. The device incorporates  
a quantum generator thereby increasing both the range and accuracy  
of the measurements.

ASSOCIATION: none

Cord 1/2

L 19574-63

ACCESSION NR: AP3008206

SUBMITTED: 25Jun62 DATE ACQ: 21Oct63 ENCL: 00

SUB CODE: AS NO REF Sov: 000 OTHER: 000

Card 2/2

BOZHEVIKOV, N.S.

Relation between the height of the lower cloud boundary and  
the visibility range on the ground. Trudy GGO no. 153:11-17 '64.  
(MIRA 17:9)

BOZHEVIKOV, N.S.

Some problems in the practice of instrumental measuring of the  
height of a cloud base. Meteor. i gidrol. no.5:56-58 My '65.  
(MIRA 184)

1. Nauchno-issledovatel'skiy institut gidrometeorologicheskogo  
priborostroyeniya.

DASHKEVICH, L.L.; SURAZHSKIY, D.Ya.; USOL'TSEV, V.A.; AZBEL', M.Ye.;  
BOZHEVIKOV, S.N.; VORZHENEVSKIY, N.S.; MANUYLOV, K.N.;  
GLAZOVA, Ye.F.; KARPUSHA, V.Ye.; PROTOPOPOV, N.G.; SHADRINA,  
Ye.N.; IGRUNOV, V.D.; NECHAYEV, I.N.; BESPALOV, D.P.;  
ILLARIONOV, V.I.; GLEBOV, F.A.; GLAZOVA, Ye.F.; KAULIN, N.Ya.;  
GORYSHIN, V.I.; GAVRILOV, V.A.; TIMOFEEV, M.P., retsenzent;  
YEFREMYCHEV, V.I., retsenzent; KRASOVSKIY, V.B., retsenzent;  
V'YUNNIK, A.P., retsenzent; STERNZAT, M.S., otv. red.;  
RUSIN, N.P., otv. red.; YASNOLORODSKAYA, M.M., red.; VOLKOV,  
N.V., tekhn. red.

[Instructions to hydrometeorological stations and posts] Nastavlenie  
gidrometeorologicheskim stantsiam i postam. Leningrad,  
Gidrometeoizdat. No.3. Pt.3. [Meteorological instruments and  
observation methods used on a hydrometeorological network] Me-  
teorologicheskie pribory i metody nabliudenii, primenyaemye na  
gidrometeorologicheskoi seti. 1962. 295 p. (MIRA 15:5)

(Continued on next card)

DASHKEVICH, L.L.---- (continued) Card 2.

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gidrometeorologicheskoy sluzhby. 2. Glavnaya geofizicheskaya observatoriya Nauchno-issledovatel'skogo instituta gidrometeorologicheskikh priborov i Gosudarstvennogo hidrologicheskogo instituta (for Dashkevich, Surazhskiy, Usol'tsev, Azbel', Bozhevikov, Vorzhenevskiy, Manuylov, Glazova, Karpusha, Protopopov, Shadrina, Igrunov, Nechayev, Bespalov, Illarionov, Glebov, Glazova, Kaulin, Gorysnin, Gavrilov). 3. Komissiya Glavnogo upravleniya hidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR (for Nechayev, Usol'tsev, Timofeyev, Yefremychev, Krasovskiy, V'yunnik) (Meteorology)

"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4

BOZHDEVOL'NOV, P.I.

BOZHDEVCL'NOV, P.I.

30434

Snizhyeniye udoya moloka u korov pri trizhomonozye. Ryefyerat. Vyetyerinsariya, 1949,  
no 10. s. 22

SO: LETOPIS' No. 34

APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4"

"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4

BOZHEVOL'NOV, P. I.

Cattle - Diseases

"Trichomoniasis and measures for controlling it." Veterinariia 29 No. 7, 1952

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4"

BOZHEVOL'NOV, YE. A.

PA 169T14

USSR/Chemistry - Analysis, Polarograph Aug 50

"Cutout for Automatic Interruption in Recording Current-Voltage Curves," Ye. A. Bozhevov'nov, All-Union Sci Res Inst of Chem Reagents

"Zavod Lab" Vol XVI, No 8, pp 1012-1013

Device automatically interrupts photographic recording at definite prescribed voltage and signals by bell ringing. Cutout does not permit registration of unnecessary part of curve. It was constructed for the Neyrovsky polarograph but, after some modification, may be used for any type of polarograph.

169T14

SCIENCE COUNCIL.

Heterogeneous ion-exchange reactions. II. Dependence of ion exchange in resins on the dilution of solutions.  
K. M. Sal'dadze and E. A. Borzovol'skaya (All-Union Sci.  
Research Inst. Chem. Reagents, Moscow). *Kolloid. Zhur.*  
16, 387-9 (1954); cf. *C.A.* 48, 13339c.—The no.  $n$  of g.-equiv. of a cation  $M_1$  taken up by 1 g. of an ion-exchange resin satd. with a cation  $M_2$  was independent of diln. of the  $M_2$  soln. if the valencies of  $M_1$  and  $M_2$  were equal; when  $M_1$  was univalent and  $M_2$  bivalent,  $n$  increased with concn.; and  $n$  increased with diln. when  $M_1$  was bi- and  $M_2$  univalent. Thus the rules given by Gapon and Pryanishnikova (*C.A.* 32, 707) for soils were valid for resins also. Three Wofatis satd. with  $H^+$ ,  $K^+$ ,  $Mg^{++}$ , or  $Ba^{++}$  were used, and the salt content varied from 0.01*N* to *N*. J. I. Bikerman

Борзенков, Е. А.

3414. Colorimetric determination of small amounts  
of phenol in water by means of 2:6-dichloro-p-  
benzoquinonechlorimine. E. A. Borzakov nov. 1950.  
*Trudy Vses. Nauch. Inst. Khim. Rastvorov, 1950,*  
(21), 38-42; *Ref. Zhur. Khim.*, 1958, Abstr. No.  
51,843.—By interaction of Na phenoxide with  
2:6-dichloro-p-quinonechlorimine (I) there is formed  
Na 2:6-dichlorophenolindophenoxide, which is  
intensely blue in alkaline soln. The sample of

water (250 ml) is treated with 2.3 g of  $\text{Na}_2\text{B}_4\text{O}_7$ ,  
to give a pH of 9.24, and 1.5 ml of a 0.25% soln. of  
I in ethanol, and examined after 2 hr. on a Hilger  
photo-electric colorimeter with a red filter. The  
reaction is sensitive to  $10^{-4}\%$ . The method can  
be made more sensitive ( $10^{-4}\%$ ) by extracting the  
coloured complex with 25 ml of isomyl alcohol  
free from furfuraldehyde. The reaction is more  
specific than that with diazotised sulphanilic acid;  
1- and 2-naphthol, quinol, pyrogallol, pyridine and  
*p*-cresol do not interfere. G. S. SMITH

3

KM  
MT

Bozhevov Nov Ye. A.

SUBJECT: USSR/Luminescence

48-5-6/56

AUTHORS: Bozhevov'nov Ye.A. and Trusov V.V.

TITLE: Purifying of Concentrated Salt Solutions for Luminophores by Chromatographic Method (Ochistka kontsentrirovannykh rastvorov soley do lyuminoftoroy chistoty khromatograficheskim metodom)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, #5, pp 655-656 (USSR)

ABSTRACT: For the removal of microadmixtures of  $Fe^{2+}$ ,  $Fe^{3+}$ ,  $Co^{2+}$ ,  $Ni^{2+}$ , and  $Cu^{2+}$  from the sulfates and chlorides of alkali and alkaline earth metals, a method was applied which is based on the ability of organic synthetic "anionites" to settle these admixtures in the solid phase of anionite.

For removal of the same admixtures from the solutions of cadmium and zinc sulfates, a method was developed which consists in their settling on "anionites" in the form of negatively charged complex ions.

Both of these methods eliminate the necessity of introduction foreign substances into salts to be purified.

Card 1/2

TITLE:

48-5-6/56

Purifying of Concentrated Salt Solutions for Luminophores by Chromatographic Method (Ochistka kontsentrirovannykh rastvorov soley do lyuminoftoroy chistoty khromatograficheskim metodom)  
The degree of purification of salts attained the limit of sensitivity of existing analytical methods ( $1 \times 10^{-5}\%$  for  $Fe^{3+}$ ,  $Co^{2+}$  and  $Ni^{2+}$  and  $1 \times 10^{-6}\%$  for  $Cu^{2+}$ ).

1 Russian reference is cited.

INSTITUTION: All-Union Scientific Research Institute of Chemical Reagents  
PRESENTED BY:

SUBMITTED: No date indicated.

AVAILABLE: At the Library of Congress.

Card 2/2

BOZHEVOL'NOV, Ye. A. Cand Chem Sci -- (diss) "Search for and study of luminescent reagents for the determination of microimpurities in highly pure substances." Mos, 1959. 12 pp (Mos State Univ im M. V. Lomonosov. Chem Faculty), 110 copies (KL, 46-59, 135)

"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4

BOZHEVOL'NOV, Ye.A.

Determination of zinc and antimony by the luminescence method  
with the use of benzoin. Trudy IREA no.22:60-64 '58.

(Zinc—Analysis)  
(Antimony—Analysis)  
(Benzoin)

(MIRA 14:6)

APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4"

"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4

BOZHEVOL'NOV, Ye.A.

Determination of zinc by the luminescence method with  
salicylaldehyde semicarbazone. Trudy IREA no.22:65-69  
'58.

(MIR 14:6)

(Zinc--Analysis)  
(Salicylaldehyde)

APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4"

"APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4

BOZHEVOL'NOV, Ye.A.

Manganon IREA, Report No.4: Determination of aluminum by  
the luminescence method with the use of salicylidene-O-  
aminophenol. Trudy IREA no.22:70-77 '58. (MIRA 14:6)  
(Aluminum—Analysis)  
(Gresol)

APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000206710010-4"

Buzheval Nov. Ye. A.

## PART I BOOK EXPLANATION

SOV/510

Kotkor, Vassilyevich-Isakent'ev Institute Institute Institute Institute Institute  
Vseobshchaya Vsesoyuznaya Akademiya Nauk SSSR  
Vseobshchaya Vsesoyuznaya Akademiya Nauk SSSR  
and Belorussiya Collection of Articles (Soviet Party Substances  
and Belorussiya Collection of Articles) Moscow, Gostekhnizdat, 1959.  
156 p. Series: Izdat-1959, vpp. 25) Printed fully Amered. 1,700  
copies printed.

Sponsoring Agency: USSR. Soviet Ministry. Goskomznanii. Sovnauk. Sovnauk. Sovnauk. Sovnauk.

Ed.: Yu.V. Lyanda; Tech. Ed.: Yu.G. Sipko; Editorial Board or Series:  
Yu.O. Brudko, V.M. Dulevich, R.S. Lasherny, A.N. Lutsik,  
O.P. Matiuk, G.I. Moshayev, G.A. Pervov (Party Rep., Ed.), and  
I.O. Sharren.

REPORT: This book is intended for personnel of chemical research and industrial  
chemical laboratories.

CONTENTS: The book contains 36 articles by affiliates of the Scientific Research  
Institutes for Chemical Reagents (IPRA) treating methods which may be selected  
by different branches of industry to produce, analyze, and study the  
qualitative and quantitative characteristics of high purity reagents, and references  
accompany each article. No recommendations are described.

Shatens, I.O. Chemical Methods of Determining Small Amounts of Impurities  
in a Number of High-Purity Substances 33

Kostomarov, O.P. Colorimetric Determination of Heavy Metals With the AIA  
Method. In: Yu.O. Brudko, V.M. Dulevich, R.S. Lasherny, A.N. Lutsik, and  
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Bonch-Bruyllov, Yu. A., and K.A. Demyanets. Synthesis of Some Azoxy Compounds  
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Bonch-Bruyllov, Yu. A., The Connection Between Fluorescence and Structure in  
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Shchegoleva, Yu. A., and I.M. Shchegoleva. Determination of the Elementary  
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AVAILABILITY: Library of Congress

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*BOZHEVOL'NOV, YE. A.*

## PAGE I BOOK EXPLANATION

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Gorobchikov, Yu. [Luminophores, 8th, 1959]

Method Luminophores Analysis; Materials of the 8th Conference (Methods for

Luminescence Analysis; Materials of the 8th Conference) Minsk, Belar.

All RSDN, 1960. 147 p. 1,000 copies printed.

Sponsoring Agency: Akademika nuk Belaruskoy SSR. Institut fizm.

General Ed.: N. A. Borisenko; Ed.: I. F. Tsvetkov; Tech. Ed.:

I. Sidorov.

PURPOSE: This collection of articles is intended for chemists and phys-  
ists interested in molecular luminescence, and for scientists per-  
sonnel concerned with applications of this and related processes in  
research in the life sciences.

CONTENTS: The collection contains 28 papers read at the Eighth Con-  
ference on Luminescence, which took place 19-28 October, 1959 [place  
of conference not given]. These studies are concerned principally  
with the development of new luminescence methods for quantitative  
and qualitative chemical analysis and with the application of lum-  
inescence in medical and biological research. They discuss lumines-  
cence methods for the determination of uranium, mercury, magnesium,  
aluminum, boron, and other elements as well as luminescence methods  
for the diagnosis of skin cancer and the detection of gripe virus.  
pathogenic microorganisms, etc. In described the structural design of new in-  
struments for luminescence analysis, the phosphorescence of crystal  
phosphors. There is a discussion of the contributions of Soviet  
specialists in molecular luminescence. In the course of the year and  
half preceding the conference, the articles of V. K. Matveyev  
(p. 75) and of V. V. Petryayev (p. 17) have been annotated because  
of their importance. No personnel are mentioned. References  
accompany most of the articles.

Problemy, E. I. and N. N. Orl'yan. New [Luminophores] (Prilozhenie  
kondensatornykh ustanovok s selenom A. A. Zhdanov). Qualitative and  
Quantitative Luminescence Analysis of Inorganic Ions 32

Roshchenko, D. P., R. M. Korshak, and A. I. Petrenko. Indicative  
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of Miumal (New Material). Determination of Boron with  
Boron with the Aid of the Objective Fluorimeter for  
liquids 37

Roshchenko, D. P., and R. M. Korshak. Increasing the  
Sensitivity and Reproducibility of Fluorescence Analysis  
of Solutions 43

Roshchenko, D. P., and A. V. Dobrobenko. Fluorescentic  
Determination of Boron in Solutions by Means of Nernst  
With a Sensitive Recorder of New Design 50

Roshchenko, D. P., and G. I. Samokhin. [Sesquinary  
nukleotidnaya i adenosinatnaya] Determination of Nucleotides  
(NUCA) All-Union Scientific Research Institute of Chemical  
Raw Materials (Uzneft). New Luminescence Reagent for the De-  
termination of Nucleotides 55

Roshchenko, Ye. A., and V. M. Tsvetkov. [All-Union  
Scientific Institute of Chemical Reagents] Determination  
of Aluminum by the Luminescence Method in Substances Having  
a High Degree of purity 59

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AUTHORS: Bozhevol'nov, Ye.A., Yanishevskaya, V.M.

TITLE: Aluminum Determination by the Luminescent Method

PERIODICAL: Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva im. D.I. Mendeleyeva, 1960, Vol. 5, No. 3, pp. 356-357

TEXT: Luminescent methods for determining aluminum were developed in various objects according to standards of  $1 \cdot 10^{-8}$  -  $1 \cdot 10^{-5}$ %. The method suggested in (Ref. 1) using salicylal-c-aminophenol for the detection and semi-quantitative determination of aluminum was investigated by the authors (Ref. 2). The sensitivity of the reaction was evaluated as 0.05 γ Al/5 ml of solution. The optimum pH value is 5.6-6.2. The reagent is introduced in the form of a 0.01% solution in acetone in a quantity of 0.15 ml to 5 ml of the solution being analyzed. The proportional relationship between the intensity of the fluorescence and the aluminum concentration is observed prior to its content attaining 0.5γ in 5 ml of solution. Besides aluminum,  
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no other cations cause fluorescence in quantities of  $25\gamma$  in 5 ml of solution. Only copper and iron in quantities more than  $0.1\gamma$  in 5 ml are able to extinguish the fluorescence of the salicylal-o-phenol and aluminum complex. The sensitivity of the given reaction depends to a greater extent on the purity of the applied buffer solution and as a result of its purification by the chromatographic method using the complex-forming agent 2,2',4'-trioxy-5-chloro-1,1'-azobenzene-3-sulfo-acid (Ref. 3) it is possible to form a buffer solution containing 5-10-8% aluminum in it. Such a purity in the buffer solution yields a sensitivity of the reaction of  $0.0025\gamma$  in 5 ml. The buffer solution is purified by introducing 5 ml of 0.1% of the above-mentioned complex-forming agent to 100 ml of the solution being purified, and this is left to stand for one hour, so that the internal complex formation of the compound with aluminum can take place. 20-25 l of the buffer solution can be purified on a column having a volume of 20-25 ml. The 3Д3-10 (EDE-10) anionite, which fills the column, absorbs 2,2',4'-trioxy-5-chloro-1,1'-azobenzene-3-sulfo-acid and acquires a dark brown

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color in the top portion of the column. The distribution of this coloring down the column in the purification process is the criterion of the degree of anionite consumption. When the colorless zone of the anionite becomes less than 3 cm the anionite in the column should be replaced by a fresh batch. The addition method is used in all cases due to the extinguishing effect of copper and iron, which enables one to perform the analysis without first eliminating copper and iron from the solution being analyzed. The increment of the fluorescence intensity was determined after the introduction of a known quantity of aluminum into the solution and the unknown quantity of aluminum was determined from the intensity of the fluorescence of the solution in 10 ml of solution according to the formula:

$$\text{Al}_y/10 \text{ ml} = \frac{\Delta C_{\text{Al}}(I_x - I_0)}{I_x \Delta C_{\text{Al}} - I_0}$$

where  $\Delta C_{\text{Al}}$  is the quantity of Al in  $y$  introduced into 10 ml of the ana-

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lyzed solution;  $I_x$  is the intensity of fluorescence of the analyzed sample;  $I_{\Delta C_{Al}}$  is the intensity of the fluorescence of the solution with aluminum introduced into it;  $I_0$  is the subtracted value of the control test. The fluorescence intensity was measured with a YM-2 (UM-2) monochromator, where a Ф9Y 19-M (FEU 19-M) photomultiplier was used as the emission receiver. The determination of aluminum in sodium acetate was performed directly in its aqueous solution, after the pH was brought to 5.6-6.0. The analyzed solution was brought to 100 ml with water, four 9 ml samples were removed, into two of which additions of aluminum were added in quantities of 0.05 and 0.08 γ, into the third sample - 2 drops of 0.05 N solution of trilon B. The volume of all four solutions was brought to 10 ml with water and 0.3 ml of a 0.01% solution of salicylal-c-amino-phenol was added into each. After 60 min the intensities of the fluorescence of each solution were recorded photometrically. The percentage of aluminum in the sodium acetate was calculated according to the formula:

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$$\text{Content of Al, \%} = \frac{\Delta C_{\text{Al}}(I_x - I_T)}{M(I_{\Delta C_{\text{Al}}} - I_x) \cdot 900}, \text{ where } M \text{ is a weighed portion of}$$

sodium acetate dissolved in 100 ml of water;  $I_T$  is the subtracted value corresponding to the solution with trilon B. The determination of the aluminum percentage with an addition of aluminum of 0.05 and 0.08 γ did not deviate by more than 20%. Aluminum was determined in acids and hydrogen peroxide after these had been evaporated. Neutral salts were added in order to ensure a complete transfer of the residue to the buffer solution after evaporation. The determination of aluminum in hydrofluoric acid can be accomplished only in using acidic decomposition of the residue after evaporation of HCl. Table 1 lists examples of aluminum determinations in solutions of HCl,  $\text{HNO}_3$ , HF,  $\text{H}_2\text{SO}_4$  and  $\text{H}_2\text{O}_2$ . The determination error did not exceed 20%. Table 2 lists examples of aluminum determination after preliminary introduction of Al. Table 3 lists the degree of agreement between the

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Aluminum Determination by the Luminescent Method

results for Al-determination by the two methods on an example of HF analyses.  
There are three tables and 3 references: 2 Soviet, 1 Czechoslovakian.

ASSOCIATION: VNII khimicheskikh reaktivov (All-Union Scientific Research  
Institute of Chemical Reagents)

SUBMITTED: October 21, 1959

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### Aluminum Determination by the Luminescent Method

Table 1: Examples of aluminum determination by the luminescent method in various projects

Substance being analyzed	No. of sample	weighed portion in g	Al content in γ	average value	Al-content %	error, %
Buffer solution						
	Анализир. вещество	Мн. образцов	Навеска в г	Содержание Al, в γ	Среднее значение	Содержание Al, %
	Буф. р-р	{ 1	10	0,006		+12
		{ 1	10	0,005		-6
		{ 1	10	0,006	0,0053	+12
		{ 1	10	0,005		-6
		{ 1	10	0,0045		-15
Card 7/10	HCl	{ 2	1	0,04		+21
		{ 2	1	0,03	0,033	-9
		{ 2	1	0,03		-9

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HCl	{ 3	1	0.03			+11	
	{ 3	1	0.026	0.027	$2.7 \cdot 10^{-6}$	-4	
	{ 3	1	0.025			-7	
HNO <sub>3</sub>	{ 4	1.4	0.024			-4	
	{ 4	1.4	0.028	0.025	$1.8 \cdot 10^{-6}$	+12	
	{ 4	1.4	0.024			-4	
HF	{ 5	2	0.2			-5	
	{ 5	2	0.2	0.21	$1.05 \cdot 10^{-6}$	+15	
	{ 5	2	0.24			+14	
HF	{ 6	2	0.12			0	
	{ 6	2	0.12	0.12	$6 \cdot 10^{-6}$	0	
H <sub>2</sub> SO <sub>4</sub>	{ 7	1	1.2			-4	
	{ 7	1	1.3	1.25	$1.25 \cdot 10^{-6}$	+4	
H <sub>2</sub> O <sub>2</sub>	{ 8	1	0.05			+11	
	{ 8	1	0.04	0.045	$4.5 \cdot 10^{-6}$	-11	
H <sub>2</sub> O <sub>2</sub>	{ 9	1	0.42			-8	
	{ 9	1	0.53	0.46	$4.6 \cdot 10^{-6}$	+13	
	{ 9	1	0.44			-4	

Table 1 (continued)

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Aluminum Determination by the Luminescent Method

Table 2: Examples of determination of preliminarily introduced Al

Substance being analyzed	quantity, g	found Al, in γ	Al content, %	Al introduced, in γ	Al detected, in γ	error, %
<chem>CH3COONa</chem>	0.5	0.0057	1.1·10 <sup>-4</sup>	0.08	0.094	+9
	0.5	0.0068	2.4·10 <sup>-4</sup>	0.08	0.08	-7
HCl	1.0	0.03	3·10 <sup>-4</sup>	0.05	0.09	+13
	1.0	0.05	5·10 <sup>-4</sup>	0.08	0.13	0,0
HF	1.0	0.03	3·10 <sup>-4</sup>	0.8	0.8	-3.5
	1.0	0.1	1·10 <sup>-3</sup>	0.15	0.21	-16
<chem>H2SO4</chem>	1.0	0.5	5·10 <sup>-4</sup>	0.2	0.20	+12
	1.0	1.2	1.2·10 <sup>-3</sup>	0.1	0.8	+11
<chem>H2O2</chem>	1.0	0.05	5·10 <sup>-4</sup>	0.02	0.07	+4
	1.0	0.04	4·10 <sup>-4</sup>	0.01	0.048	0
C <chem>HNO3</chem>	1.0	0.026	2.6·10 <sup>-4</sup>	0.06	0.07	-18
	1.0	0.2	2·10 <sup>-3</sup>	0.5	0.7	0
	1.0	0.2	2·10 <sup>-3</sup>	1.0	1.4	+17

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Aluminum Determination by the Luminescent Method

Table 3: Results of analyses of hydrofluoric acid by the luminescent and spectral methods

Sample numbers	aluminum content	
	by the luminescent method	by the spectral method
2 fraction	$1,7 \cdot 10^{-5}$	$1,7 \cdot 10^{-5}$
17	$9 \cdot 10^{-6}$	$1,2 \cdot 10^{-5}$
15	$1 \cdot 10^{-5}$	$1 \cdot 10^{-5}$
10	$1,2 \cdot 10^{-5}$	$6,8 \cdot 10^{-6}$

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AUTHORS: Lukin, A. M., Bozhevol'nov, Ye. A.

TITLE: Concerning a New Reagent for Luminescent Determination of Gallium

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol 15, Nr 1,  
pp 43-48 (USSR)

ABSTRACT: The effect of different substituents in trihydroxyazo compounds (II) containing group (I) on the luminescent properties of the products of reaction between Ga and compounds II was studied in order to select a sensitive and selective reagent for fluorimetric determination of gallium.

